CLAIMS

What is claimed is:

1. A method for protecting circuit device materials, comprising:

mixing an reactive material with a comparatively inert material to form a getter, the comparative inertness relative to the reactive material;

placing the getter in the device;

applying energy to the getter; and

responsive to applying the energy, distributing the getter inside the device.

2. The method according to claim 1, further comprising sealing the device, and wherein:

the device comprises an optoelectronic device, the optoelectronic device including a substrate and an active OLED area;

placing the getter includes placing the getter on a surface of a cap; and

sealing the device includes joining the cap to the substrate.

3. The method according to claim 2, wherein distributing the getter includes transferring at least a portion of the getter to cover the active OLED area.

4. The method according to claim 2, wherein at least one of the shape and activity of

the getter is modified after the sealing of the device.

5. The method according to claim 3, wherein transferring at least a portion of the getter to cover the active OLED area includes heating the getter to a temperature in the range of 75 to 225 degrees Celsius, and the portion of the getter transferred is greater than approximately eighty percent.

6. The method according to claim 3, wherein:

the active OLED area includes a central portion and a periphery; and

distributing the getter includes covering at least 50% of the periphery.

7. The method according to claim 6, wherein the distributing occurs after final assembly of the device.

8. The method according to claim 1, wherein the inert material comprises a binder.

9. The method according to claim 1, wherein the placing is accomplished by automated means.

10. A method for protecting circuit device materials, comprising:

placing a reactive material on an interior surface of the device;

placing a meltable material upon the reactive material to substantially cover the reactive

material; and

in response to an application of energy to the meltable material, removing at least a portion of the meltable material, the removing exposing at least a portion of the reactive material.

11. The method of claim 10 wherein:

the circuit device comprises an optoelectronic devices and includes an active area;

the removing step includes heating the meltable material to a temperature in the range of 75 to 300 degrees Celsius, and the removing step further comprises covering substantially all of the active area with the meltable material.

12. The method of claim 10 further comprising sealing the device and wherein at least one of the shape and activity of the getter is modified after the sealing of the device. .

13. An optoelectronic device comprising:

a substrate;

an active device area placed on the substrate; and

a getter including:

a first material adapted to respond to energy input by at least one of: melting, phase change, and morphological change; and

a reactive material.

14. The optoelectronic device of claim 13, wherein the first material comprises at least one of paraffin wax, low-density polyethylene, or Elvax® resin.

15. The optoelectronic device of claim 13, wherein:

the first material comprises a binder; and

the reactive material is substantially dispersed within the first material.

16. The optoelectronic device of claim 13, further comprising a seal joining the substrate to a cap; and wherein:

the at least one of: melting, phase change, and morphological change results in reflowing of the first material, and

prior to the reflowing, the getter is disposed on a recessed surface of the cap.

17. The optoelectronic device of claim 16, wherein after the reflowing, the getter is disposed to cover a substantial portion of the active device area.

18. A cap including a getter, the cap comprising:

a reactive material disposed on a cap surface; and

an inert material placed to cover more than approximately fifty percent of the reactive material, the inert material adapted to flow in response to application of energy to the inert material.

19. The cap of claim 18, wherein the cap includes an interior surface having a recessed portion.

20. The cap of claim 19, wherein:

the inert material covers at least some of the recessed portion; and

in response to the application of energy, the inert material melts.

21. The cap of claim 19, wherein the inert material covers less than the entire recessed portion thereby leaving a cavity between the inert material and at least one sidewall of the recessed portion.

22. A getter composition, comprising:

a reactive material disposed in an encapsulated device, the reactive material substantially more reactive than at least one device material to: matter desorbed from at least one surface of the device, matter from a space within the device, and matter permeating into the space within the device from outside the device; and

an inert material disposed in the encapsulated device, the inert material adapted to respond to energy input by at least one of: melting, phase change, or morphological change.

23. The composition of claim 22 wherein:

the reactive material comprises an activated powder containing at least one of activated alumina, silica, zeolite, barium oxide, calcium oxide, calcium, and barium; and

the inert material comprises at least one of paraffin wax, low-density polyethylene, or Elvax® resin.

24. The composition of claim 23 wherein the inert material comprises a binder and the activated powder is mixed with the binder, the activated material substantially dispersed in the binder.